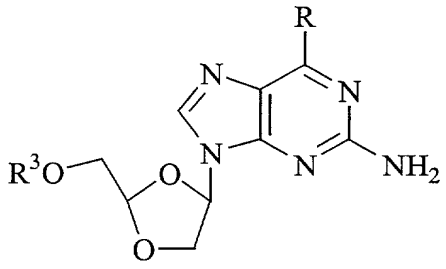
WE CLAIM:

1. A pharmaceutical composition for the treatment or prophylaxis of an HIV infection in a host, comprising an effective amount of a β-D-1,3-dioxolanyl purine of the formula:



or its pharmaceutically acceptable salt, wherein

R is H, OH, Cl, NH_2 or NR^1R^2; R^1 and R^2 are independently hydrogen, alkyl or cycloalkyl, and R^3 is H, alkyl, aryl, acyl, phosphate, including monophosphate, diphosphate or triphosphate or a stabilized phosphate moiety, including a phospholipid, or an etherlipidin combination with at least one inosine monophosphate dehydrogenase (IMPDH) inhibitor, optionally in a pharmaceutically acceptable carrier or diluent.

2. The composition of claim 1, wherein the β-D-1,3-dioxolanyl purine is (-)-(2R,4R)-2-amino-9-[(2-hydroxymethyl)-1,3-dioxolan-4-yl]-adenine (DAPD).

3. The composition of claim 1, wherein the β-D-1,3-dioxolanyl purine is (-)-(2R,4R)-9-[(2-hydroxymethyl)-1,3-dioxolan-4-yl]-guanine (DXG).

4. The composition of any one of claims 1-3, wherein the IMPDH inhibitor is selected from the group consisting of ribavirin, mycophenolic acid, benzamide riboside, tiazofurin, selenazofurin, 5-ethynyl-1-β-D-ribofuranosylimidazole-4-carboxamide (EICAR) and (S)-N-3-[3-(3-methoxy-4-oxazol-5-yl-phenyl)-ureido]-benzyl-carbamic acid tetrahydrofuran-3-yl-ester (VX-497).

5. The composition of claim 4, wherein the IMPDH inhibitors is mycophenolic acid.

6. The composition of claim 4, wherein the IMPDH inhibitors is ribavirin.

7. The composition of claims 1-6, wherein the β-D-1,3-dioxolanyl purine is enantiomerically enriched.

8. The composition of claim 1 in a pharmaceutically acceptable carrier suitable for oral delivery.

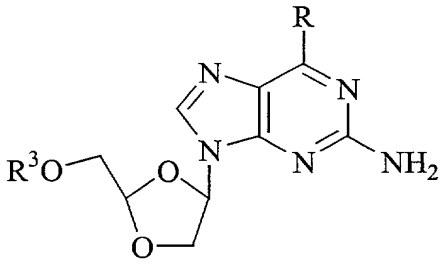
9. The composition of claim 1 in a pharmaceutically acceptable carrier suitable for intravenous delivery.

10. The composition of claim 1 in a pharmaceutically acceptable carrier suitable for parenteral delivery.

11. The composition of claim 1 in a pharmaceutically acceptable carrier suitable for topical delivery.

12. The composition of claim 1 in a pharmaceutically acceptable carrier suitable for systemic delivery.

13. A method for the treatment or prophylaxis of a drug resistant strain of HIV infection in a host, comprising administering an effective amount of a β-D-1,3-dioxolanyl purine of the formula:



or its pharmaceutically acceptable salt, wherein

R is H, OH, Cl, NH_2 or NR^1R^2; R^1 and R^2 are independently hydrogen, alkyl or cycloalkyl, and R^3 is H, alkyl, aryl, acyl, phosphate, including monophosphate, diphosphate or triphosphate or a stabilized phosphate moiety in combination or alternation with an inosine monophosphate dehydrogenase (IMPDH) inhibitors, optionally in a pharmaceutically acceptable carrier or diluent.

14. The method of claim 13, wherein the β-D-1,3-dioxolanyl purine is (-)-(2R,4R)-2-amino-9-[(2-hydroxymethyl)-1,3-dioxolan-4-yl]-adenine (DAPD).

15. The method of claim 13, wherein the β-D-1,3-dioxolanyl purine is (-)-(2R,4R)-9-[(2-hydroxymethyl)-1,3-dioxolan-4-yl]-guanine (DXG).

16. The method of any one of claims 13-15, wherein the IMPDH inhibitor is selected from the group consisting of ribavirin, mycophenolic acid, benzamide riboside, tiazofurin, selenazofurin, 5-ethynyl-1-β-D-ribofuranosylimidazole-4-carboxamide (EICAR) and (S)-N-3-[3-(3-methoxy-4-oxazol-5-yl-phenyl)-ureido]-benzyl-carbamic acid tetrahydrofuran-3-yl-ester (VX-497).

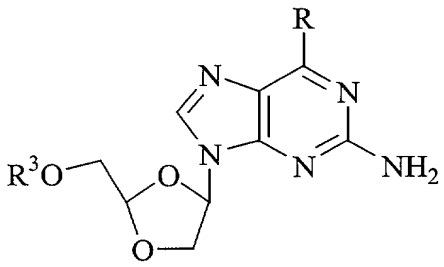
17. The method of claim 16, wherein the IMPDH inhibitor is mycophenolic acid.

18. The method of claim 16, wherein the IMPDH inhibitor is ribavirin.

19. The method of claim 16, wherein the HIV infection is resistant to DAPD and/or DXG.

20. The method of any one of claims 13-19, wherein the host is a human.

21. A method for the treatment or prophylaxis of HIV infection in a host, comprising administering an effective amount of a β-D-1,3-dioxolanyl purine of the formula:



or its pharmaceutically acceptable salt, wherein

R is H, OH, Cl, NH_2 or NR^1R^2; R^1 and R^2 are independently hydrogen, alkyl or cycloalkyl, and R^3 is H, alkyl, aryl, acyl, phosphate, including monophosphate, diphosphate or triphosphate or a stabilized phosphate moiety in combination or alternation with an inosine monophosphate dehydrogenase (IMPDH) inhibitors, optionally in a pharmaceutically acceptable carrier or diluent.

22. The method of claim 21, wherein the β-D-1,3-dioxolanyl purine is (-)-(2R,4R)-2-amino-9-[(2-hydroxymethyl)-1,3-dioxolan-4-yl]-adenine (DAPD).

23. The method of claim 21, wherein the β-D-1,3-dioxolanyl purine is (-)-(2R,4R)-9-[(2-hydroxymethyl)-1,3-dioxolan-4-yl]-guanine (DXG).

24. The method of any one of claims 21-23, wherein the IMPDH inhibitor is selected from the group consisting of ribavirin, mycophenolic acid, benzamide riboside, tiazofurin, selenazofurin, 5-ethynyl-1-β-D-ribofuranosylimidazole-4-carboxamide (EICAR) and (S)-N-3-[3-(3-methoxy-4-oxazol-5-yl-phenyl)-ureido]-benzyl-carbamic acid tetrahydrofuran-3-yl-ester (VX-497).

25. The method of claim 24, wherein the IMPDH inhibitor is mycophenolic acid.

26. The method of claim 24, wherein the IMPDH inhibitor is ribavirin.

27. The method of any one of claims 21-26, wherein the host is a human.